Let It Snow ...

Air Force program comes out of the Ice Ages

by TSgt Michael A. Ward
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In the beach community of Panama City, Fla., sits the Air Force's snow and ice control manager. The sun may be shining brightly, but SMSgt Clyde Young is looking forward to snow. The reason? Like a kid with a new sled, he wants to try out his new toys.

For years, the Air Force's snow removal program was stuck in the Ice Age; straddled with a fleet of old, unreliable equipment that had either seen better days or simply didn't work. Young helped convince the Air Force to commit millions of dollars to new equipment and training.

"You've got to remove the snow and ice to launch and recover aircraft," Young said. "It's the same on the commercial side. What they're doing works for them, so it should work for us. That's what I had to convince people of."

Young, a heavy equipment operator who has worked snow removal at Grand Forks Air Force Base, N.D.; Osan Air Base, Korea and RAF Alconbury, United Kingdom, knew the first step was to replace the 50-year-old snow plows that are standard equipment at every snow base.

"We have a fleet of about 340 airfield snow removal plows in the inventory and more than half of them are the rollover WT-series trucks that are considered obsolete," he said. The plows, which initially had a life expectancy of about 13 years, were discontinued by the company in 1965.

"In the late 70s, when the plows were ready to be replaced, the Air Force opted for a rebuilding program instead," Young said. "We gave the trucks back to Oshkosh, who rebuilt them and sold them back to us. It was cost effective, however, we lost a lot of technology because even rebuilt, they are still 30-year-old trucks."

The new H-series trucks cost approximately $185,000 each, and will be phased in to replace the WT-series rollovers over the next 8-10 years.

Also on the chopping block is the Air Force's snow broom. It came into the inventory in the 1950s as a rotating broom towed behind a truck and eventually became a rotating broom mounted to the front of a dump truck. Either way, it wasn't very effective. "It was another initiative started to save money, but it's not industry standard either," Young said. "The front-mounted broom was a good idea, but had poor application." At Fairchild AFB, Wash., the broom fleet had only a 24 percent in-use rate in 1999. "Basically they were hangar queens waiting around for parts."

After about 10 years of "floundering around with it," the final straw came when a slightly redesigned version of the same broom truck proved to be equally inefficient and troublesome. "We got the first ones in 1999 and sent three to Elmendorf AFB, Alaska," Young said. "They stayed in the barn practically all winter long."

The new brooms are state-of-the-art, industry-quality equipment, but they aren't cheap, coming in at about $300,000 each, nearly twice as much as the old brooms. But, Young said, you get what you pay for. "By spending the money up front and buying what works, we'll save money down the line." The Air Force expects to purchase 10-15 snow brooms each year for the next five years.

The next change had nothing to do with inefficiency, but rather cost and environmental concerns. About four years ago the Air Force switched from urea as an airfield deicer to more environmentally friendly chemicals. While the new chemicals are less toxic and cause less damage to the environment, they cost about three times more.

"With urea, we could do blanket coverage of an airfield because it was fairly cheap," Young said. "But because of the cost of the newer chemicals — about $5,000 an application — we just can't afford to do that."

What was needed was a way to precisely determine when to apply deicer, where to apply it and how much to apply. The solution came from the Canadian Air Force and its computerized deicing system called SNIC — snow

and ice control integrated system. The system uses computers and precision sprayers to control the rate of chemicals being applied.

The Air Force purchased 12 SNIC systems last year at $240,000 each and has contracted to buy up to 10 more.

The final piece of the puzzle is a new training video. “I was at Fort Leonard Wood, Mo., recently and the students there were watching the same video I watched as an airman basic. It’s got a lot of antiquated equipment and a lot of the processes have changed,” he said. Young and a video crew went to Fairchild and Elmendorf in January to shoot a new training video. The video will be in distribution before next snow season.

In the meantime, all Young can do is wait for the snow to fall. “We’re hoping to get a lot of it this year so we can get a lot of good data.”

Indeed.

Editor’s note: Sergeant Young is assigned to the Air Force Civil Engineer Support Agency, Tyndall AFB, Fla. The preliminary reports he has received from bases using the new equipment have been very positive, showing greater efficiency and effectiveness, and monetary savings as well.

Upgrading the Fleet

The new snow removal equipment has many features that will improve operator performance and streamline maintenance.

The new Oshkosh H-Series high-speed reversible plow truck offers several operating advantages over the old Oshkosh P-Series rollover plow truck. The all-wheel steer feature reduces the turning radius and reduces maintenance on the tires and driveline. The cab-forward design with reverse slope windshield enhances operator visibility, while the rear engine design provides a quieter environment, eliminating the need for hearing protection and allowing the operator to easily monitor the radio. The counterweight is mounted on the center of the chassis, which displaces 56 percent of weight to the front axle and enhances maneuverability, traction and pushing capabilities.

Two types of plows will be offered, both with similar design and performance characteristics. Evaluations at Minot Air Force Base, N.D., through the Management Equipment Evaluation Program (MEEP), and at the Combat Readiness Training Center in Alpena, Mich., proved the high-speed reversible plows are superior to the rollover plow in terms of performance and maintenance.

The Oshkosh H-Series runway broom trucks offer several operating advantages as well. Unlike the aging dump truck-mounted snow broom, they are specifically designed for heavy-duty snow removal applications. The trucks are equipped with a 27,000-pound front axle versus the much lighter axle rating commonly found on mass-produced trucks. The rear engine design provides natural ballast for improved traction and offers a much quieter environment for the operator. Like the plow truck, the broom trucks feature cab-forward design with reverse slope windshields that significantly enhance operator visibility.

Three types of snow brooms will be offered. All similar in design and performance characteristics with various options available for each broom, including broom heads with cassette steel brush systems.

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The new H-series runway broom truck in use at Elmendorf AFB. *(Photo by Scott Anderson) (Right)* A video crew shoots footage at Fairchild AFB, for a new snow and ice control training video, slated for release this fall. *(Photo by SMSgt Clyde Young)*

The spreader (*left*), grip tester *(bottom right)* and sprayer *(bottom left)* are the three components of SNIC, the newly adopted snow and ice control integrated system, which uses computers and precision sprayers to control the rate of chemicals being applied. *(Photos by Jerry Adamietz)*